IO, Storage Devices & Media

Exam Style Questions

Answer <u>ALL</u> questions and show working where indicated.

NAME		DATE	

SCORE	**/ 45**

Question 1

A company releases an in-home virtual assistant called 'Bertie Butler'.

The device, when placed in a room, listens out for the phrase "Hey Bertie". When someone says that phrase it then listens to the question that follows and tries to give a relevant answer.

Bertie Butler has a number of built-in input and output devices.

Name one input device and one output device that might be part of Bertie Butler. For each device give a reason for it being built into the virtual assistant.

Input Device Name:

Input Device Reason:

Output Device Name:

Output Device Reason:

[4]

Question 2

a) Traditionally films have been distributed on optical media such as DVDs.

   Giving an example other than DVDs, describe what is meant by the term 'optical media'.

[2]

b) Explain the advantages and disadvantages of owning films that are streamed or downloaded on demand rather than owning a physical copy.

[4]

c) Being able to stream high resolution films is only possible due to improvements in compression. Explain why compression is important for the streaming of high-resolution films.
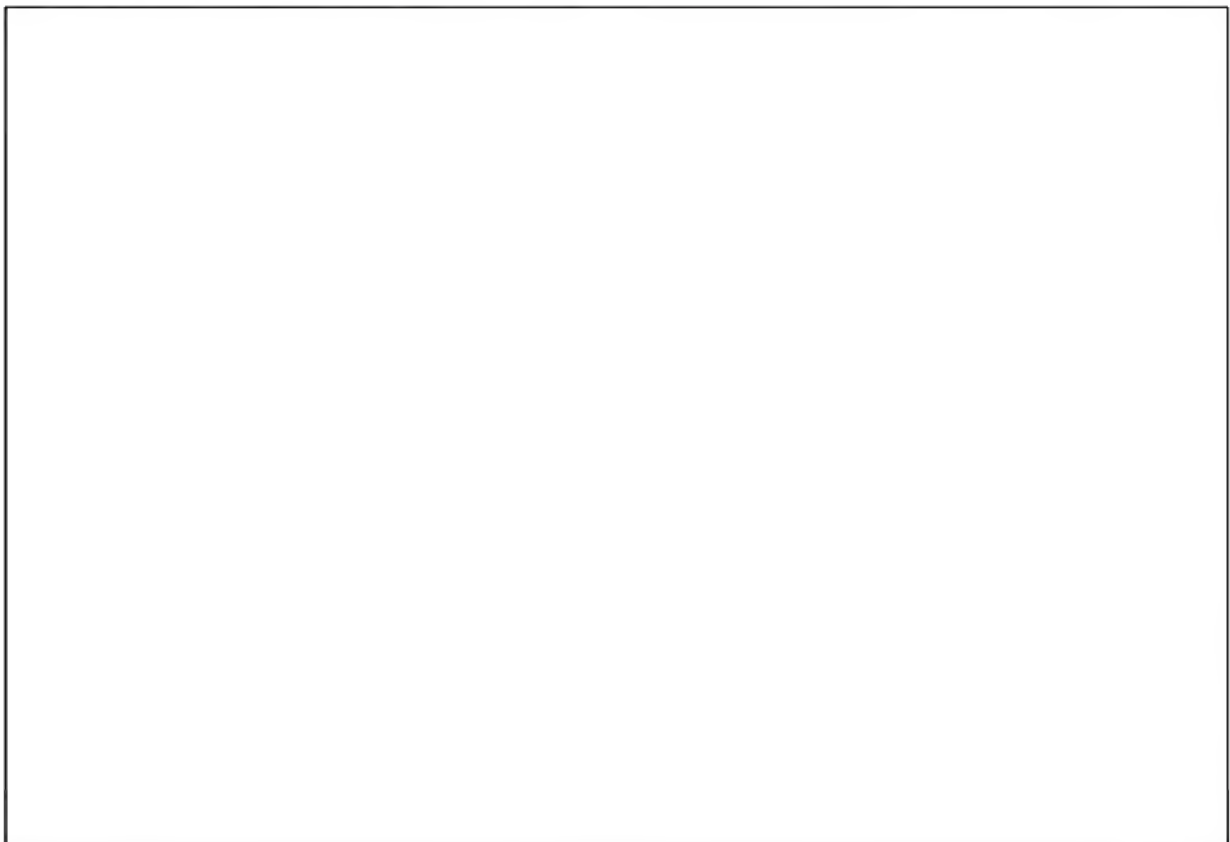

[3]

Question 3

The office workers of a large company each use a standalone computer.

The finance manager needs to work on some files at home and also to assess new software for use in the finance department.

State **three** different storage devices that the finance manager would use and describe what each device would be used for.

[6]

Question 4

The memory of a computer system contains both RAM and ROM.

i)   State two differences between RAM and ROM in a typical PC computer system.

[2]

ii)   State one item that needs to be stored in RAM and give a reason why RAM is used.

[2]

iii)   State one item of software that is stored in ROM and give a reason why ROM is necessary.

[2]

Question 5

Intensive Care Units in hospitals are for patients in need of round the clock monitoring and support. Computerised systems can be used to monitor patients' vital signs (temperature, heart rate, blood pressure and breathing). They can then alert medical professionals to any significant changes. These systems usually run on an embedded, real-time, operating system.

i)   Explain two advantages of this monitoring system having its operating system stored in ROM.

[2]

ii)   The monitoring system also has RAM. Describe what happens to the contents of RAM and ROM when power to the monitoring system is removed.

[2]

Question 6

A company releases a utility called RAMStore. The utility creates a virtual storage drive from an area of the computer's RAM.

It is important that enough RAM is left for the operating system to use. Describe a technique that allows operating systems to overcome a lack of available RAM.

[4]

Question 7

A company is designing a new low-power processor to be used in a smartwatch.

The smartwatch contains ROM and RAM.

i)   State two ways in which ROM differs from RAM.

[2]

ii)   Give an example of what the ROM on the smartwatch might hold.

[1]

Question 8

Modern computers tend to have magnetic or solid state (flash) hard drives. Discuss which hard drive you would recommend for a keen video games player to use on their desktop PC.

[9]